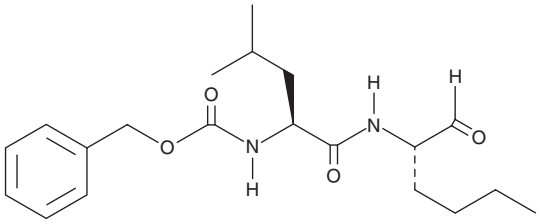
PRODUCT INFORMATION

Calpeptin

Item No. 14593

CAS Registry No.: 117591-20-5
Formal Name: N-[(1S)-1-[[[(1S)-1-formylpentyl]amino]carbonyl]-3-methylbutyl]-carbamic acid, phenylmethyl ester
MF: $C_{20}H_{30}N_2O_4$
FW: 362.5
Purity: ≥90%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Calpeptin is supplied as a crystalline solid. A stock solution may be made by dissolving the calpeptin in the solvent of choice, which should be purged with an inert gas. Calpeptin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of calpeptin in these solvents is approximately 30 mg/ml.

Calpeptin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, calpeptin should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Calpeptin has a solubility of approximately 0.5 mg/ml in a 1:1 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Calpeptin is a cell-penetrating peptide inhibitor of calpain (IC_{50} = 5 nM) which completely abolishes calpain activity in platelets.[1-3] In this way, it inhibits both collagen- and thrombin-induced aggregation of platelets.[4] Calpeptin is also a potent inhibitor of cathepsin K (IC_{50} = 0.11 nM).[5]

References

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2. Iqbal, M., Messina, P.A., Freed, B., *et al.* Subsite requirements for peptide aldehyde inhibitors of human calpain I. *Bioorg. Med. Chem. Lett.* **7(5)**, 539-544 (1997).
3. Leung, D., Abbenante, G., and Fairlie, D.P. Protease inhibitors: Current status and future prospects. *J. Med. Chem.* **43(3)**, 305-341 (2000).
4. Mehdi, S. Cell-penetrating inhibitors of calpain. *Trends Biochem. Sci.* **16(4)**, 150-153 (1991).
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